



HISTOPATHOLOGICAL CHANGES DURING THE PROGRESSIVE INFECTION OF BmIFV IN THE SUSCEPTIBLE / TOLERANT BREEDS OF SILKWORM, *BOMBYX MORI* L.

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ABSTRACT

Infectious flacherie disease of silkworm is caused by the virus, BmIFV (*Bombyx mori* infectious flacherie virus). In India, this disease was first reported by Sato (1992) and later, many workers have taken up investigations on various aspects of disease in silkworm. There are a few reports available on the susceptibility status of different silkworm breeds / hybrids to BmIFV and so far, only a few tolerant and susceptible breeds have been identified against this pathogen. Our earlier studies indicated CSR2 as highly susceptible and 5N as the most tolerant breed of silkworm against BmIFV infection. This pathogen has been found to infect only the midgut tissue but not other tissues viz., haemolymph, fat body, silk gland, gonad and malpighian tubules in both the susceptible (CSR2) and tolerant (5N) breeds. In the present study, an attempt was made to understand the histological changes taking place in the midgut during the progressive infection (1-12 DPI) of BmIFV in both the susceptible and tolerant breeds. In CSR2, as the infection progressed, the number of goblet cells that got infected increased continuously and was discharged into the gut lumen and only a few regenerative *nidi* cells developed into new goblet and columnar cells which ultimately led to physiological damage as reflected by high larval mortality. But, in the tolerant breed, the infected goblet and cylindrical cells were less in number as the infection progressed. This may be because along with the process of discharging of infected cells into the gut lumen, there was regeneration of new goblet cells at a higher rate from the *nidi* cells, allowing physiological repair. The susceptibility / tolerance status of these breeds against BmIFV is discussed.

Key words: BmIFV, *Bombyx mori* L., histopathology, midgut, susceptible / tolerant breeds.